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Lifestyle Assessment: Development And Use of the FANTASTIC Checklist

SUMMARY

An important aspect of health promotion is the assessment of lifestyle factors over which patients have some control. Health professionals often do not have time to integrate a comprehensive lifestyle inquiry into a busy practice. This article, the first in a six-part series on lifestyle assessment, describes the development and rationale of a simple patient questionnaire called FANTASTIC, which initially was used as a mnemonic memory aid for patients and physicians in the Department of Family Medicine at McMaster University. The inventory encompasses the physical, emotional and social components of health believed to be relevant to morbidity, mortality and quality of life. A retest reliability study demonstrated acceptable overall reliability, and the inadequate components of the checklist have been improved. Patient acceptance of both the written and microcomputer versions of the questionnaire has been high. (Can Fam Physician 1984; 30:1527-1532)

SOMMAIRE

Un des aspects importants de la promotion de la santé est l'évaluation des facteurs du style de vie sur lesquels les patients peuvent exercer un certain contrôle. Souvent, à cause d'une pratique surchargée, les professionnels de la santé n'ont pas le temps d'inclure dans leur histoire de cas une revue complète du style de vie. Cet article, le premier d'une série de cinq sur l'évaluation du style de vie, décrit le développement et la rationelle d'un simple questionnaire du patient appelé FANTASTIC, utilisé initialement comme moyen mnémotechnique pour aider les patients et les médecins du Département de médecine familiale de l'Université McMaster. L'inventaire de ce questionnaire couvre les aspects physiques, émotionnels et sociaux de la santé jugés pertinents quant à la morbidité, la mortalité et la qualité de vie. Une étude de fiabilité a révélé un taux global de fiabilité acceptable et les parties inadéquates du questionnaire ont été améliorées. Nous avons noté une bonne acceptation de la part du patient tant de la version écrite que de la version pour micro-ordinateur.

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IN RECENT YEARS there has been marked interest in health promotion.[1-3] Family physicians, family practice nurses, community health nurses, educators and health educators are helping people to examine their health behaviors. In fact, major reports issued by both the Canadian[4] and American[5] departments of health and welfare have stressed the need for a reorientation in health care, from a model based on treating disease to one based on health promotion and disease prevention. As a conceptual framework for such a model, the Lalonde report[4] introduced the Health Field Concept, which consists of four broad elements: human biology, environment, lifestyle, and health care organization. These elements were arrived at by examining the causes and underlying factors of sickness and death in Canada and by assessing the part they play in affecting the level of health in the country. The lifestyle category was thought to consist of an individual's decisions which affect his health and over which he has some control. Because poor personal decisions and health habits can create self-imposed risks resulting in premature illness or death, the improvement of lifestyle is an important goal for achieving a better level of health.

The American report, "Healthy People: The Surgeon-General's Report of Health Promotion and Disease Prevention"[5] points out that, "It is the controllability of many risks—and, often, the significance of controlling

even a few—that lies at the heart of disease prevention and health promotion''. The report makes the specific link between lifestyle and disease. Studies have shown that a few good health habits can positively affect the length and quality of life, as does maintaining a strong network of social contacts with family and friends.[6,7] A series of studies in Alameda County, California[7] demonstrated substantial increases in the longevity of people who exercise vigorously and regularly, maintain normal weight, eat breakfast, do not snack between meals, avoid smoking, limit alcohol consumption, and sleep seven to nine hours a night. If lifestyle is, in fact, an important determinant of health, then it becomes essential to develop tools for measuring a person's lifestyle. Such tools are useful for both the patient, who can use the tool to evaluate and modify his or her own lifestyle, and the health professional who wants to take a holistic approach to patient care. An assessment tool can facilitate confrontation, lifestyle education and counselling. Although health hazard appraisal tools currently exist, we have found these to be risk-based, and many do not focus on factors which the individual can control.

Health Risk Appraisal

Health risk appraisal instruments have a number of limitations when used in a family practice setting. Some are very lengthy and time-consuming, and thus are impractical for a busy physician. Computer processed assessment forms often require up to six weeks before a printout is available. This delay in feedback may interfere with the process of data collection, sharing, education and treatment. A patient is more easily motivated to improve his lifestyle when there is immediate feedback. Some instruments also include 'blaming the victim' types of questions on family history of breast cancer, and other characteristics that the patient can do nothing about.

An assessment which focuses on likely causes of death is a negative approach to health promotion. It also implies a narrower definition of health, which does not include everyday matters and quality of life. The triad of physical, emotional and social functioning is not represented.

Some patients, particularly the elderly, may become depressed with life expectancy predictions. An appraised age which exceeds chronological age may precipitate unnecessary anxiety, confusion and hypochondriasis. To others, particularly the unemployed, and the economically underprivileged, a recommendation aimed at increased lifespan may have absolutely no appeal. However, such people may welcome suggestions to improve their situation.

In their ''assessment of health hazard/health risk appraisal'', Wagner et al[8] pointed out arithmetic imprecision for calculating assessment of mortality risks. The assumed efficacy for motivating behavioral change could not be substantiated from evidence collected from programs, users and developers. The researchers argued that their analysis included behaviors for which scientific evidence of their predictive importance remains controversial (e.g., exercise and reductions in cholesterol intake to lower the risk of death from coronary heart disease).

Wagner et al[8] felt that use of Framingham data, which is based on the middle-aged, middle class, to predict the risk of younger people produced nonsensical risk factor values. Small changes in total risk translate into dramatic alterations in risk age for those under 35, because the ten year risk of death rises very slowly for that group.

The researchers criticized the nonstandardized method of measuring and recording blood pressure and cholesterol levels. They said that when a value was not written down, an average value was inserted. An error of 20% in the blood pressure level apparently can create an error of several years in the computation of risk age.[8]

Other lifestyle questionnaires are available, but these are much longer and, we believe, more complicated to use than one called FANTASTIC, which is a simple but comprehensive instrument.

FANTASTIC Lifestyle Assessment

FANTASTIC originated as a mnemonic aid that one of us (Dr. Wilson) used while a member of the Committee on Examinations of The College of Family Physicians of Canada (CFPC). One of the College's eductational objectives is for family physicians to be able to take a holistic approach to patient care. In order to learn about the patient's environment, the family doctor should enquire about family, career, and other important lifestyle factors. In arriving at a list of important lifestyle characteristics, we used the College objective that ''The physician shall be able to define health as the state of physical, emotional, and social well-being.''[9]

A CFPC survey of 1,500 Canadian family doctors asked how frequently they raised questions about specific lifestyle practices.[10] Seventy-five percent of this sample indicated that they always discuss smoking, 51% discuss alcohol intake, and 37% discuss nutrition. The family physicians only sometimes asked questions about career, drug abuse, activity, family and leisure activities. When asked if it would help to have more information on helping patients with lifestyle issues, 91% of questionnaire respondents said that printed material containing specific instructions would be helpful.

Breslow's[7] seven health habits were combined with questions about seatbelt use to represent the physical factors that can influence mortality and, to some extent, morbidity and wellness, i.e., activity; nutrition (breakfast, snacks, weight); tobacco; alcohol; sleep; seatbelt use and toxins.

Beck and Burns[11] have studied the emotional factors related to lifestyle. In their work on cognitive therapy, these authors suggested that personal insight is important for controlling anxiety, depression, and other negative thoughts. Holmes'[12] and Selye's[13] research on stress provided a framework for some of the current investigations into how human beings can adapt in a healthy way to stress in their environment. Sections on insight and stress are therefore included on FANTASTIC.

Although the social components of lifestyle and their relationship to health are more difficult to study, Epstein[14] and Satir[15] have examined this area. They developed guidelines for health relationships in family settings. Palmore[16] and Ulrich[17] also looked at career and other occupational factors that can affect morbidity. Finally, Rosenman and Friedman[18] looked at and classified behaviors which can affect risk factors for disease. Family, career and type of personality complete the FANTASTIC lifestyle inventory (see Figures 1 and 2).

Fig. 1.
FANTASTIC lifestyle assessment inventory

FANTASTIC LIFESTYLE ASSESSMENT

Based on the past month rate yourself in each of the areas below:

		2 points	1 point	No points	Maximum score	Your score
FAMILY **F**RIENDS	Communication with others is open, honest and clear	almost always	some of the time	hardly ever	2	
	I give and receive affection	almost always	some of the time	hardly ever	2	
	I get the emotional support that I need	almost always	some of the time	hardly ever	2	
ACTIVITY	Active Exercise—30 minutes e.g. running, cycling, fast walk	3 times weekly	twice a week	seldom or never	2	
	Relaxation and enjoyment of leisure time	almost daily	some of the time	hardly ever	2	
NUTRITION	Balanced meals	almost always	some of the time	hardly ever	2	
	breakfast daily	almost always	some of the time	hardly ever	2	
	Excess sugar, salt, animal fats, or junk foods	minimal use	some of the time	frequently	2	
	Ideal weight	within 10 lbs. (4 kg.)	within 20 lbs. (8 kg.)	not within 20 lbs. (8 kg.)	2	
TOBACCO **T**OXINS	Tobacco in the past year	none	pipe only	cigarettes	2	
	Abuse of drugs: prescribed and unprescribed	seldom or never	some of the time	frequently	2	
	Coffee, tea, cola	under 3 per day	3 - 6 per day	6 or more	2	
ALCOHOL	Average intake per day	less than 2 drinks	2 drinks	more than 2	2	
	Alcohol & driving	never drink & drive	only rarely	fairly often	2	
SLEEP **S**EATBELTS **S**TRESS	7 - 9 hrs. sleep per night	almost always	some of the time	hardly ever	2	
	Frequency of seat belt use	always	most of the time	some of the time	2	
	Major stressful events in past year	none	1 - 2	3 or more	2	
TYPE OF PERSON-ALITY	Sense of time urgency; impatience	hardly ever	some of the time	almost always	2	
	Competitive and aggressive	hardly ever	some of the time	almost always	2	
	Feelings of anger & hostility	hardly ever	some of the time	almost always	2	
INSIGHT	Positive thinker	almost always	some of the time	hardly ever	2	
	Anxiety, worry	hardly ever	some of the time	almost always	2	
	Depression	hardly ever	some of the time	almost always	2	
CAREER (Includes home-making, students, etc.)	Satisfied in job or role	almost always	some of the time	hardly ever	2	
	Good Relationships with those around	almost always	some of the time	hardly ever	2	
				TOTAL	50	

Name_____ Sex M☐ F☐

Occupation_____ Year of birth_____

Clinical Version
Rev. 06.83

Fig. 2.
Legend for scores on FANTASTIC lifestyle assessment.

What does your score mean?
If you score:

42 - 50 — Congratulations—You are in control.

35 - 41 — Good work—You are on the right track.

30 - 34 — Fair

20 - 29 — Somewhat low—you could take more control.

0 - 19 — You are in the danger zone (but honesty is your real strength).

Note: The total score does not mean that you have failed. There is always the chance to change your lifestyle — starting now. Look at the areas where you scored a **0** or **1** and decide which areas you want to work on first.

Tips:

1. Don't try to change all the areas at once. This will be too overwhelming for you.
2. Writing down your proposed changes and your overall goal will help you to succeed.
3. Make changes in small steps towards the overall goal.
4. Enlist the help of a friend to make similar changes and/or to support you in your attempts.
5. Congratulate yourself for achieving each step. Give yourself appropriate rewards.
6. Ask your family physician, nurse or health department for more information on any of these areas.

In an unpublished survey of 37 physicians and nurses at McMaster University, respondents were asked to rank which three lifestyle factors they judged to be most significant with respect to mortality, morbidity, quality of life and effectiveness of intervention. In order, the highest rated were tobacco use, alcohol and driving, seatbelt use, giving and receiving affection, and depression. Those areas rated as having minimal significance were eating breakfast, snacks and junk food, seven to nine hours of sleep each day, competitive aggressive behavior, and positive thinking.

In this survey, we attempted to look at the merit of assigning different weightings to the 25 components of FANTASTIC. For example, it seemed to some of our group that, based on evidence from the literature, tobacco use may be five times as significant as eating breakfast each day. However, agreement could not be reached among physicians, nurses, other health professionals and patients for weighting differences on the instrument. Some people judged the family/friends categories, particularly support, to be among the most significant lifestyle items; others rated them to be of relatively little importance. Based on this experience, and Wainer's[19] article "Estimating Coefficients in Linear Models: It Don't Make No Nevermind",[19] our study group decided to forego differential weighting. Wainer demonstrated "that the resulting prediction is apt to be very close to the optimal one, were the optimal weights known, and often better than one which does not use optimal weights".[19]

The FANTASTIC questionnaire incorporates physical, emotional, and social lifestyle factors. The ongoing development and testing of the questionnaire has been undertaken at McMaster by an interdisciplinary group consisting of two physicians, four nurse practitioners, and a librarian with a special interest in consumer health education.

The aspects of lifestyle over which patients have control either have proven relationship to morbidity and mortality (e.g., cigaret smoking and coronary heart disease) or are related to wellness or quality of life (e.g., family support, career satisfaction, anxiety). Some soft areas, such as lack of family support and coping with stress, were found in a large, prospective epidemiological study[20] to be important variables in predicting who will develop peptic ulcer disease. A busy family physician, who often runs behind the appointment schedule, deals with the presenting problems of his patients. Although he may suspect lifestyle factors he often believes a comprehensive assessment is overwhelming, and too time consuming.

Patients can complete the FANTASTIC lifestyle checklist or microcomputer program in about ten minutes, while they wait for their appointment. The family physician can see at a glance areas which may require attention. When a patient scores low, family physicians can readily see the areas needing education or behavior change. A total score or "wellness index" of less than 70% is less than the mean score of about 100 patients in a family practice study.[21] A mean score of 56% was recorded by a group of women with low socioeconomic status.[22] This score rose significantly following a six week course of lifestyle education workshops. The differences in scores on the 0-50 instrument were +5.4 (10.8%) compared with +1.6 (3.2%) in a cohort group receiving no intervention ($p = 0.029$).[22]

How Can FANTASTIC Be Used?

The questionnaire has been used at McMaster to evaluate residents and students and their holistic approach to patient care. When shared directly with learners, the FANTASTIC questionnaire has been found to be an effective teaching tool. The individual practitioner may also find FANTASTIC useful for collecting data from patients, especially in wellness assessments, during life crises, or for patients who have stress-related diseases such as duodenal ulcer, depression and migraine. At McMaster, we have discovered that patients find FANTASTIC helpful as a self-assessment tool which can be used on an ongoing basis to evaluate strengths and weaknesses in lifestyle.

The Strengths Of FANTASTIC

Patients, colleagues, and medical students in McMaster's Department of Family Practice have identified features that make FANTASTIC helpful as a lifestyle inventory (see Table 1).

Development and Evaluation

During the past two years, our interdisciplinary work group has used literature reviews, consumer feedback, group discussions, and questionnaire scores from the test-retest study to revise the questionnaire several times. Although the group realized that lifestyle and its relationship to health are complex areas just beginning to be understood, our research efforts began with practical questions. The first question was: "Is FANTASTIC a reliable instrument?" This was thought to be an important question, because Best[23] discovered a serious problem of unreliability in his study of health hazard appraisal and lifestyle change programs. He found respondents did not answer questions similarly in retests, even when it did not seem possible to answer the questions differently. For instance, some respondents gave different answers to questions about frame size, height and sexual history.

We conducted a retest reliability study. Only four areas of FANTASTIC had correlation coefficients less than 0.75.[21] These were questions re-

TABLE 1

Strengths of the FANTASTIC Lifestyle Inventory*

1. Single page can be completed quickly
2. Components are easily remembered
3. Holistic (concerned with 'wellness' or quality of life, and physical, social and emotional wellbeing, as well as mortality risk)
4. Can be used for self-assessment
5. Component and total scores are reference points for ongoing assessment
6. Results are available immediately
7. Can be combined immediately with a tailored prescription and follow up plan
8. Time-saving method of incorporating lifestyle data into a visit and the health record
9. Questions are relevant, and based on everyday life
10. Includes only behaviors which can be controlled, and thereby minimizes 'blaming the victim'

* Identified by patients, colleagues, and medical students at McMaster University.

lating to family, activity, nutrition and career. We have improved the reliability of these questions by using Best's[23] suggestion to stress accuracy of interpretation of questions. The correlation coefficient of total scores is now 0.88, suggesting overall reliability of FANTASTIC as an index of lifestyle behaviors.

We also selected out the six common items assessed by both FANTASTIC and Evalu Life.[21] Appraised age ± chronological age on Evalu Life was compared with the FANTASTIC score and the correlation coefficient was only 0.47. (One explanation for this low correlation is that the two instruments do not measure the same things).

We have surveyed about 100 patients to discover their reaction to both questionnaires and to microcomputer versions of FANTASTIC.[21] Eighty-eight percent of patients reported that they found filling out lifestyle questionnaires to be a helpful reminder of their health behavior. Patients were even more satisfied with the microcomputer program. More than 90% ranked it as "highly liked, useful, informative and of low difficulty". Most patients agreed that family physicians have a responsibility to assess lifestyle information.

Conclusion

Primary care health professionals have recognized the need to incorporate lifestyle assessment and counselling into their practices.[1-3, 10] We have identified some factors associated with morbidity, mortality and quality of life. We have found the FANTASTIC lifestyle checklist to be a reliable and simple method for people to quickly assess lifestyle behaviors. The completed assessment is helpful in planning strategies for change. ◉

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